UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,517	10/11/2005	Wataru Ikeda	92478-1700	6119

52044 7590 03/03/2009

SNELL & WILMER L.L.P. (Panasonic)
600 ANTON BOULEVARD
SUITE 1400
COSTA MESA, CA 92626

EXAMINER	
HEYI, HENOK G	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
03/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,517	IKEDA ET AL.	
	Examiner	Art Unit	
	HENOK G. HEYI	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamane et al. US 6,393,196 B1 (Yamane hereinafter).

Regarding claim 1, Yamane teaches an optical disc having recorded therein a digital stream divided into n segments (video data from plural related paths is divided into specific segments, which are then multiplexed on an optical disc, col 1 lines 55-57), wherein an interleave unit is recorded in front of an ith segment to be played back in an ith place, where each of i and n is an integer that satisfies $i<n$ (see Fig. 36), and the interleave unit includes one of (a) a program to be synchronized with playback of the ith segment and (b) data to be displayed synchronously with playback of the ith segment (the multimedia source data St1, St3, and St5 are synchronized with the timing signals St9, St11, and St13 because St1, St3, and St5 are output after being delayed time Td by the source stream buffer, col 7 lines 21-24).

Regarding claim 2, Yamane teaches the optical disc of Claim 1, wherein the interleave unit includes ending time information that indicates at which point on a playback time axis of the digital stream the program or the data should be deleted from

a memory (The title sequence control signal St39 supplies the multimedia bitstream MBS formatting start and end timing information and formatting parameters declaring the reproduction control information and interleave information, col 25 lines 63-67).

Regarding claim 3, Yamane teaches the optical disc of Claim 1, wherein the interleave unit includes start time information that indicates at which point on a playback time axis of the digital stream the program or the data becomes usable (The title sequence control signal St39 supplies the multimedia bitstream MBS formatting start and end timing information and formatting parameters declaring the reproduction control information and interleave information, col 25 lines 63-67).

Regarding claim 4, Yamane teaches the optical disc of Claim 1, wherein a copy of the interleave unit is recorded between the ith segment and an *i+1th* segment (see Fig. 36).

Regarding claim 5, Yamane teaches the optical disc of Claim 4, wherein a boundary between the ith segment and the *i+1th* segment falls in a middle of a live range of the program or the data (see Fig. 36).

Regarding claim 6, Yamane teaches the optical disc of Claim 4, wherein a boundary between the ith segment and the *i+lth* segment falls after a live range of the program or the data (see Fig. 36).

Regarding claim 7, Yamane teaches the optical disc of Claim 1, wherein the ith segment is made of a plurality of access units, each access unit containing video data having an intra picture (an original multimedia bitstream comprises a video stream St1

for carrying video information, a subpicture stream St3 for carrying captions and other ancillary video information, col 5 lines 54-57), and the optical disc has recorded therein map information that shows the interleave unit in association with one of an address and a playback time of each of the access units belonging to the ith segment (This address is expressed as the relative sector number inside the data of the interleaved blocks formed in step #2352, and declares the address information of the navigation pack NV contained in the VOBU of all angle scenes near the presentation start time of the VOBU being processed, col 45 lines 35-40).

Regarding claim 8, Yamane teaches the optical disc of Claim 1, wherein i≥2, and a boundary between the ith segment and an *i-1th* segment corresponds to a start point of a live range of the program or the data on a playback time axis of the digital stream (Referring to FIG. 18, data regions to which data is continuously arrayed are called "blocks," of which there are two types: "contiguous block regions" in which VOB with discrete starting and end points are contiguously arrayed, and "interleaved block regions" in which plural VOB with aligned starting and end points are interleaved, col 30 lines 63-66).

Regarding claim 9, Yamane teaches the optical disc of Claim 8, wherein the live range is a section on the playback time axis, during which the program or the data becomes usable (It is important to note here that "reproduction time" is used in a broad sense, and refers to the time during which data is read from disc, converted to audio and video signals, and audio and video are output, col 15, lines 39-43).

Regarding claim 10, Yamane teaches the optical disc of Claim 1, wherein the program is an event handler that is driven by an event, and an interleave unit including the event handler is recorded in front of a time at which the event occurs on a playback time axis of the digital stream (The program chain information VTS_PGCI in a DVD data structure for multi-scene control as shown in FIG. 9 is described next below with reference to FIG. 16 and FIG. 17, col 27 lines 59-61).

Regarding claim 11, Yamane teaches the optical disc of Claim 10, wherein the event is one of (a) an event indicating that a current playback time point has reached a predetermined time on a playback time axis, (b) an event indicating that a user operation is made during a predetermined time duration of the playback time axis (The program chain information VTS_PGCI in a DVD data structure for multi-scene control as shown in FIG. 9 is described next below with reference to FIG. 16 and FIG. 17.
(230) The user-selected scenarios shown in FIG. 9 are shown in FIG. 16 using the notation of a VTSI data structure representing the internal structure of a video title set in the DVD data structure shown in FIG. 5, Col 27 lines 59-65), (c) an event occurring prior to playback according to a playback path, (d) an event occurring after playback according to a playback path (A reproduction path, which is a reproduction sequence of an MPEG stream, is then determined to enable reproduction of content according to a user-selected scenario, col 1 lines 40-43), (e) an event generated by the playback apparatus, and (f) an event generated by another program (program chain (PGC) controlling the reproduction sequence. Each PGC information entry VTS_PGCI#i is information indicative of a program chain, and comprises j (where j is a natural number)

cell reproduction data C_PBI#1 to C_PBI#j. Each cell reproduction data C_PBI#j contains control information related to the reproduction and reproduction sequence of a cell, col 19 lines 15-22).

Regarding claim 12, Yamane teaches the optical disc of Claim 1, further having recorded therein interleave-unit general information that shows identifiers of a plurality of interleave units recorded in the optical disc, in association with a size and a live range of a corresponding program or data (see Fig. 36).

Regarding claim 13, Yamane teaches the optical disc of Claim 1, further having recorded therein playlist information and a dynamic scenario (A reproduction path, which is a reproduction sequence of an MPEG stream, is then determined to enable reproduction of content according to a user-selected scenario, col 1 lines 40-43), wherein the playlist information defines a playback path by disposing pieces of information indicating playback sections of video data according to a playback order (scenario 1 consists of cell playback information C_PBI#1 corresponding to scene 1, col 28 lines 3-4), the dynamic scenario defines a video title by showing a playback procedure of at least one playback path (the number of titles TITLE_NO defining the number of scenario reproduction paths as the number of titles in the scenario data St7 is set, col 40 lines 28-30), and the interleave unit contains an identifier that shows, as a live range of the program or the data, one of a playback path, a playback section, an entire video title, and a chapter of the video title (the scenes unique to scenario 1 and scenario 2, are also placed in an interleaved block to enable seamless reproduction of

the scenes in each unique scenario, and to enable seamless reproduction to the common scenes before and after, col 28 lines 40-44).

Regarding claim 14, Yamane teaches the optical disc of Claim 1, wherein the interleave unit contains a locator that contains drive information and path information, the drive information indicating a drive to which the program or the data is to be read, and the path information indicating in which layer of a layer structure of the drive the program or the data exists (The contiguous block regions and interleaved block regions are then written to disk in the track path Dr direction in the playback sequence, col 30 lines 58-60).

Regarding claim 15, Yamane teaches the playback apparatus for an optical disc having recorded therein a digital stream (the present invention relates to a method for generating a multimedia stream comprising mutually related audio data and video data, and to a multimedia optical disk authoring system for storing the multimedia stream as digital data, col 1 lines 17-20), the playback apparatus comprising: a reading unit operable to read, from the optical disc, an ith segment to be played back in an ith place from among n segments constituting the digital stream, together with an interleave unit preceding the ith segment, where each of i and n is an integer that satisfies $i<n$ (see Fig. 36); a playback unit operable to play back the read ith segment; and a processing unit operable to perform synchronous processing using a program or data included in the read interleave unit, in synchronization with playback of the ith segment (As a result of significantly increased recording/playback capacity, high speed recording/playback, and performance improvements in the signal processing LSI in a DVD system, plural audio

data streams and plural subpicture data streams (graphics data) can be recorded interleaved with a single video data stream as an MPEG system stream, thereby enabling the user to select the specific audio data and subpicture data to be reproduced during playback, col 21 lines 46-53).

Regarding claim 16, Yamane teaches the playback apparatus of Claim 15, comprising: a memory operable to store the read interleave unit (the subpicture for one screen can be captured to video memory, for example, and the captured subpicture screen can be continuously displayed, col 5 lines 63-65); and a track buffer operable to store the read ith segment, wherein the playback unit receives supply of the ith segment via the track buffer, and the processing unit receives supply of the interleave unit via the memory (The minimum interleave unit presentation time ILVU_MT defines the time that can be reproduced when the bit rate of the smallest interleave unit at which a track buffer data underflow state does not occur is the maximum bit rate of the interleaved VOB ILV_BR during interleaved block reproduction, col 35 lines 58-64).

Regarding claim 17, Yamane teaches the playback apparatus of Claim 16, further comprising a switcher, wherein the read unit, upon reading a sector of the optical disc, makes a notification of an address of the sector, the switcher (a) writes information read from the sector to the memory when judging that the notified address from the read unit falls within an area for storing interleave units, and (b) sequentially writes information read from the sector to the track buffer when judging that the notified address from the read unit falls within an area for storing segments, each interleave unit on the memory is made of information that the switcher has written to the memory, and

each segment on the track buffer is made of information that the switcher has written to the track buffer.

Regarding claim 18, Yamane teaches the playback apparatus of Claim 17, wherein in the optical disc, each interleave unit is stored in a file separately from the digital stream, the optical disc has recorded therein file management information that indicates each file identifier in association with an address in the optical disc of one of the digital stream and an interleave unit, and judgment as to whether a current read position is within the area for storing interleave units or within the area for storing segments is performed by referring to the file management information (a single memory buffer can be made functionally equivalent to these separate buffers by using on a time-share basis a memory buffer that operates at several times the read/write rate required by these separate buffers, col 15 lines 1-3).

Regarding claim 19, Yamane teaches the playback apparatus of Claim 16, wherein in the optical disc, each interleave unit is stored in a file separately from the digital stream, the optical disc has recorded therein file management information that indicates each file identifier in association with an address in the optical disc of one of the digital stream and an interleave unit, and the read unit, before performing the reading, opens each file for specifying the memory as a reading destination for a file storing an interleave unit, and specifying the track buffer as a reading destination for a file storing the digital stream (the multimedia bitstream MBS contains the volume file structure VFS, which indicates physical addresses on the recording medium generated by the video zone formatter, col 9 lines4-7).

Regarding claim 20, Yamane teaches the playback apparatus of Claim 16, wherein the interleave unit contains ending time information, and the processing unit deletes the interleave unit from the memory when a current playback time point of the playback unit has reached an ending time that the ending time information indicates (The title sequence control signal St39 supplies the multimedia bitstream MBS formatting start and end timing information and formatting parameters declaring the reproduction control information and interleave information, col 25 lines 63-67).

Regarding claim 21, Yamane teaches the playback apparatus of Claim 16 further comprising a virtual machine subunit, wherein the processing unit, upon request by an application program, supplies the program or the data in the interleave unit on the memory to a work area of the virtual machine subunit, and has the virtual machine subunit to execute the program or the data (Private packets 1 and 2 each comprise a packet header, private data area, and data area, col 22 lines 65-66).

Regarding claim 22, Yamane teaches the playback apparatus of Claim 21, wherein the interleave unit contains start time information, and the processing unit supplies the program to the work area of the virtual machine subunit upon request by the application program when the current playback time point of the playback unit has reached a start time that the start time information indicates, and the current playback time point of the playback unit has not reached the start time, the processing unit does not supply the program to the work area of the virtual machine subunit, even upon request by the application program (Using the synchronization control data St81, the synchronization controller 2900 determines the decoding start timing for each stream so

that after decoding the streams are in a particular sequence. Based on this decoding timing, the synchronization controller 2900 generates and supplies a video stream decoding start signal St89 to the video decoder 3801. The synchronization controller 2900 similarly generates and supplies a subpicture stream decoding start signal St91 and audio stream decoding start signal St93 to the subpicture decoder 3100 and audio decoder 3200, respectively, col 13 lines 57+).

Regarding claim 23, Yamane teaches the playback apparatus of Claim 15, wherein a boundary between the ith segment and an *i+1th* segment falls in a middle of a live range of the program or the data, a copy of the interleave unit is recorded between the ith segment and the *i+1th* segment, and the read unit reads the copy from the optical disc when a random access is performed to the ith segment (see Fig. 36).

Regarding claim 24, Yamane teaches the playback apparatus of Claim 15, wherein a boundary between the ith segment and an *i+1th* segment falls after a live range of the program or the data, a copy of the interleave unit is recorded between the ith segment and the *i+1th* segment, the read unit reads the ith segment when the playback unit performs normal playback, and the playback unit, when performing reverse playback, reads the *i+1th* segment among the n segments, together with the copy of the interleave unit preceding the *i+1th* segment (see Fig. 36).

Regarding claim 25, Yamane teaches the playback apparatus of Claim 15, wherein the ith segment is made of a plurality of access units, each access unit containing video data having an intra picture (an original multimedia bitstream

comprises a video stream St1 for carrying video information, a subpicture stream St3 for carrying captions and other ancillary video information, col 5 lines 54-57), the optical disc has recorded therein map information that shows the interleave unit in association with one of an address and a playback time of each of the access units belonging to the ith segment, and the read unit performs reading of the interleave unit, by referring to the map information (This address is expressed as the relative sector number inside the data of the interleaved blocks formed in step #2352, and declares the address information of the navigation pack NV contained in the VOBU of all angle scenes near the presentation start time of the VOBU being processed, col 45 lines 35-40).

Regarding claim 26, Yamane teaches the playback apparatus of Claim 15, wherein the processing unit includes a virtual machine subunit, the playback unit plays back the digital stream and generates an event synchronized with the playback, and the virtual machine subunit, when the playback unit has generated the event, executes the program in the interleave unit (Private packets 1 and 2 each comprise a packet header, private data area, and data area, col 22 lines 65-66).

Regarding claim 27, Yamane teaches the playback apparatus of Claim 26, wherein the event is one of (a) an event indicating that a current playback time point has reached a predetermined time on a playback time axis of video data (The program chain information VTS_PGCI in a DVD data structure for multi-scene control as shown in FIG. 9 is described next below with reference to FIG. 16 and FIG. 17. (230) The user-selected scenarios shown in FIG. 9 are shown in FIG. 16 using the notation of a VTSI data structure representing the internal structure of a video title set in the DVD

data structure shown in FIG. 5, Col 27 lines 59-65), (b) an event generated by the playback apparatus, and (c) an event generated by another program (program chain (PGC) controlling the reproduction sequence. Each PGC information entry VTS_PGCI#i is information indicative of a program chain, and comprises j (where j is a natural number) cell reproduction data C_PBI#1 to C_PBI#j. Each cell reproduction data C_PBI#j contains control information related to the reproduction and reproduction sequence of a cell, col 19 lines 15-22).

Regarding claim 28, Yamane teaches the playback apparatus of Claim 27, wherein the optical disc has recorded therein mark information that defines a predetermined\time point and a predetermined time interval on the playback time axis, and the playback unit generates the event according to the mark information (see Fig. 36).

Regarding claim 29, Yamane teaches the playback apparatus of Claim 27, comprising a reception unit operable to receive a user operation, wherein the event is an event that indicates that the reception unit has received a user operation in a predetermined time duration of the playback time axis of the video data (A user can reproduce video and audio in the multimedia source data on the display unit and speaker unit to recognize the title content. While confirming the reproduced content, a user can enter content editing commands according to a desired scenario using the keyboard unit, col 6 lines 30-39).

Regarding claim 30, Yamane teaches the playback apparatus of Claim 15, wherein the optical disc has recorded therein interleave-unit general information being management information for a plurality of interleave units recorded on the optical disc, the playback apparatus includes a memory and a playback control unit that is operable to judge, according to the interleave-unit general information, whether the interleave units are storable in the memory, and the read unit reads part or all of the interleave units when the playback control unit has judged affirmatively (A multimedia bitstream MBS, which is the largest management unit of a bitstream of multimedia data in an authoring system, is formed from a specific number of VZ, col 5 lines 45-48).

Regarding claim 31, Yamane teaches the playback apparatus of Claim 15, wherein the optical disc has recorded therein playlist information that defines a playback path by disposing pieces of information indicating playback sections of the digital stream according to a playback order, and the playback control unit controls the read unit and the playback unit so as to play back the digital stream according to the playlist information (A reproduction path, which is a reproduction sequence of an MPEG stream, is then determined to enable reproduction of content according to a user-selected scenario, col 1 lines 40-43).

Regarding claim 32, Yamane teaches the playback apparatus of Claim 31, wherein each interleave unit contains an identifier, and the playback control unit, in playing back the digital stream according to the playlist information, controls the read unit to read, from the optical disc, one of (a) an interleave unit containing an identifier of the playlist information and (b) an interleave unit containing an identifier of information

that indicates a playback section of the playlist information (The interleaved allocation flag IAF stores a value identifying whether the cell is in an interleaved block. If the cell is part of an interleaved block, the interleaved allocation flag IAF is set to 1; otherwise it is set to 0, col 20 lines 30-33).

Regarding claim 33, Yamane teaches the playback apparatus of Claim 31, wherein the optical disc has recorded therein a dynamic scenario, the dynamic scenario defining a title by showing a playback procedure of at least one playback path shown by playlist information, the playback control unit controls the read unit to read, from the optical disc, one of (a) an interleave unit containing an identifier of the title corresponding to the dynamic scenario and (b) an interleave unit containing an identifier of a chapter included in the title corresponding to the dynamic scenario (The interleaved allocation flag IAF stores a value identifying whether the cell is in an interleaved block. If the cell is part of an interleaved block, the interleaved allocation flag IAF is set to 1; otherwise it is set to 0, col 20 lines 30-33).

Regarding claim 34, Yamane teaches the playback apparatus of Claim 15, wherein each interleave unit contains a locator that contains drive information and path information, the drive information indicating a drive to which the program or the data is to be read, the path information indicating in which layer of a layer structure of the drive the program or the data is to be disposed, and the playback apparatus disposes the program or the data in the layer indicated by the path information (The contiguous block regions and interleaved block regions are then written to disk in the track path Dr direction in the playback sequence, col 30 lines 58-60).

Regarding claim 35, Yamane teaches a playback program for an optical disc having recorded therein a digital stream, the playback program comprising: a reading step of reading an a ith segment to be played back in an ith place, from among a plurality of segments constituting the digital stream; a playback step of playing back the read ith segment; and a processing step of performing synchronous processing using a program or data included in the read interleave unit, in synchronization with playback of the ith segment (As a result of significantly increased recording/playback capacity, high speed recording/playback, and performance improvements in the signal processing LSI in a DVD system, plural audio data streams and plural subpicture data streams (graphics data) can be recorded interleaved with a single video data stream as an MPEG system stream, thereby enabling the user to select the specific audio data and subpicture data to be reproduced during playback, col 21 lines 46-53).

Regarding claim 36, Yamane teaches a playback method for an optical disc having recorded therein a digital stream, the playback method comprising: a reading step of reading an a ith segment to be played back in an ith place, from among a plurality of segments constituting the digital stream; a playback step of playing back the read ith segment; and a processing step of performing synchronous processing using a program or data included in the read interleave unit, in synchronization with playback of the ith segment (As a result of significantly increased recording/playback capacity, high speed recording/playback, and performance improvements in the signal processing LSI in a DVD system, plural audio data streams and plural subpicture data streams (graphics data) can be recorded interleaved with a single video data stream as an

MPEG system stream, thereby enabling the user to select the specific audio data and subpicture data to be reproduced during playback, col 21 lines 46-53).

Regarding claim 37, Yamane teaches a recording method for an optical disc, the recording method comprising: a step of creating application data; and a step of recording the created application data to the optical disc, wherein the application data contains a digital stream divided into n segments and an interleave unit (video data from plural related paths is divided into specific segments, which are then multiplexed on an optical disc, col 1 lines 55-57), the interleave unit is recorded in front of an ith segment to be played back in an ith place, where each of i and n is an integer that satisfies $i<n$, and the interleave unit includes one of (a) a program to be synchronized with playback of the ith segment and (b) data to be displayed synchronously with playback of the ith segment (the multimedia source data St1, St3, and St5 are synchronized with the timing signals St9, St11, and St13 because St1, St3, and St5 are output after being delayed time Td by the source stream buffer, col 7 lines 21-24).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

/Henok G Heyi/
Examiner, Art Unit 2627